

What is claimed is:

1. A color cathode ray tube comprising:

a vacuum envelope having an approximately rectangular panel portion having a phosphor film formed on an inner surface thereof, a neck portion housing an electron gun and a funnel portion which connects the neck portion and the panel portion;

an approximately rectangular color selection electrode having a major surface which faces the phosphor film and in which a plurality of electron beam apertures are formed, and skirt portions which are formed in a shape of a frame by being bent toward the neck portion from peripheries of long sides and short sides of the major surface; and

a mask frame which holds the skirt portions of the color selection electrode by being welded to the skirt portions, wherein

the color selection electrode includes a plurality of rectangular through holes in the skirt portions,

the plurality of rectangular through holes are comprised of a plurality of columns of rectangular through holes, said columns being arranged in a lengthwise direction of corresponding ones of the skirt portions, and

each of the plurality of columns of through holes is comprised of rectangular through holes arranged in a widthwise direction of the corresponding ones of the skirt portions, and wherein

the following inequalities are satisfied:

$$SL1 < SL2 < SL3,$$

$$SW1 < SW2 < SW3,$$

$$BH1 > BH2 > BH3,$$

5       $BV1 > BV2 > BV3,$

where

SL1, SL2 and SL3 are lengths of long sides of rectangular through holes in outermost columns, columns next to said outermost columns, and remaining columns, of said plurality  
10 of columns, respectively,

SW1, SW2 and SW3 are lengths of short sides of rectangular through holes in said outermost columns, said columns next to said outermost columns, and said remaining columns, of said plurality of columns, respectively,

15      BH1, BH2 and BH3 are vertical bridge widths between adjacent ones of said rectangular through holes in said outermost columns, said columns next to said outermost columns, and said remaining columns, of said plurality of columns, respectively, and

20      BV1, BV2 and BV3 are a horizontal distance between adjacent ones of said rectangular through holes in said outermost columns and said columns next to said outermost columns, a horizontal distance between adjacent ones of said rectangular through holes in said columns next to said outermost columns and columns  
25 adjacent to said columns next to said outermost columns, in

said remaining columns, and a horizontal distance between adjacent ones of said rectangular through holes in adjacent ones of said remaining columns, respectively.

5           2. A color cathode ray tube according to claim 1, wherein the plurality of rectangular through holes are formed in the skirt portions at the short sides of the major surface.

10           3. A color cathode ray tube according to claim 1, wherein the plurality of rectangular through holes are formed in the skirt portions at both the short and long sides of the major surface.

15           4. A color cathode ray tube according to claim 1, wherein the plurality of columns of rectangular through holes are divided into a plurality of collections in corresponding ones of the skirt portions, an area not formed with holes is provided between adjacent ones of the plurality of collections, and a width of the area not formed with holes is wider than a spacing  
20 between adjacent ones of the plurality of columns of rectangular through holes in a same one of the plurality of collections.

25           5. A color cathode ray tube according to claim 1, wherein the plurality of rectangular through holes are disposed clear of locations of the skirt portions welded to the mask frame.

6. A color cathode ray tube according to claim 1, wherein rectangular through holes in one of the rectangular through hole columns are offset in the widthwise direction of  
5 corresponding ones of the skirt portions from rectangular through holes in adjacent ones of the rectangular through hole columns.

7. A color cathode ray tube according to claim 1, wherein  
10 the long sides of the rectangular through holes are aligned with the widthwise direction of the skirt portions.

8. A color cathode ray tube according to claim 4, wherein rectangular through holes in one of the rectangular through  
15 hole columns are offset in the widthwise direction of corresponding ones of the skirt portions from rectangular through holes in adjacent ones of the through hole columns.

9. A color cathode ray tube according to claim 4, wherein  
20 the long sides of the rectangular through holes are aligned with the widthwise direction of the skirt portions.

10. A color cathode ray tube according to claim 1, wherein said columns of rectangular through holes are arranged  
25 in parallel with each other to extend a distance in a range

of from 50% to 98% of a length of corresponding sides of the skirt portions, and extend a distance in a range of from 30% to 98% of a width of corresponding sides of the skirt portions.